

Jorge A. Perez

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SUMMARY

Engineer who turns business problems into shipped AI systems. Most recently replaced a daily two-person manual review at Aviro360 with a vision-language model pipeline that inspects site imagery and routes findings into Jira, email, and SMS — roughly 1,000 person-hours a year returned to the business. Eleven years across hands-on software and data engineering, customer-site deployment, and the translation between what operations needs and what engineering builds. Co-inventor on four issued U.S. patents. MBA and BS Computer Engineering — fluent in both the technical design and the business case.

SELECTED IMPACT

- AI against a real process: built the vision-language model pipeline — scheduled perception, model evaluation, severity classification, and automated action into ticketing and alerting — that replaced two analysts spending two hours a day on manual review, roughly 1,000 person-hours a year.
- Forward deployed by background: eleven years designing, commissioning, and supporting systems at customer sites, and acting as the technical voice to non-technical stakeholders and executives.
- Prototype to production: partners with R&D to move concepts out of proof-of-concept into field operation, then writes the runbooks, specifications, and training that make adoption stick.
- Measurement built in: defines the operational metrics — alert volume, escalation tiers, time to resolution, cache and query performance — that show whether an automation is actually working.

EXPERIENCE

Aviro360 (formerly the ConGlobal technology group) | Odessa, FL

Nov. 2025 – Present

Senior Data Engineering Lead

- Built agentic automation for the Network Operations Center: a vision-language model pipeline samples camera images from customer sites on a schedule, evaluates each against defined quality and fault criteria, classifies severity, and acts on the result — opening Jira tickets or dispatching email and SMS per configured escalation tier without a human in the loop. Replaced a manual review that occupied two analysts for two hours every day, roughly 1,000 person-hours a year.
- Work across R&D, design, deployment, support, and data teams to find where automation returns the most operational value, then lead the work from concept through production.
- Partner with R&D to move emerging concepts from prototype into field operation: design the training-data collection behind supervised computer vision models for license plate and container code recognition, match capture conditions to production inference, and validate model performance in the field.
- Built the production data platform from scratch on PostgreSQL and AWS RDS Multi-AZ: 340 GB across 334 tables and 1.4 billion rows, sustaining 3.9 million transactions and 7.9 million row inserts per day at a 99.3% cache hit ratio and zero deadlocks.
- Own the Network Operations Center and the metrics behind it — monitoring through Grafana and Loki, alert routing, escalation tiers, automated remediation, and root-cause follow-through — across an edge estate of about 20 customer sites on AWS EKS, Kafka, and Kinesis/MSK.
- Write deployment runbooks, site design specifications, and operating documentation that make solutions repeatable across customer accounts, and train the teams who run them.
- Manage and mentor a cross-functional team of seven across data engineering, IT, systems administration, and field operations, and own hiring end to end.
- Report platform health, risk, and roadmap to technical and executive stakeholders, translating operational signal into business decisions.

ConGlobal | Odessa, FL

Jul. 2023 – Nov. 2025

Senior Data Engineer / Team Lead

- Led data engineering and database architecture for large-scale, mission-critical operational systems, defining the data models and storage strategies behind real-time integrations, reporting, and analytics.
- Partnered with analytics and BI teams to deliver data products and dashboards that business users actually adopted.
- Served as technical lead for system integrations, translating business requirements into technical designs across internal and external systems.

- Mentored engineers and DBAs and coordinated delivery with project management, QA, and business stakeholders against timeline and quality targets.

Communication Concepts Integration (acquired by ConGlobal, 2023) | Odessa, FL
Senior Systems Integration Engineer / Team Lead

Jan. 2020 – Jul. 2023

- Served as the primary technical point of contact for cross-functional teams and the customer-facing voice on project status, risk, and trade-offs — communicating complex technical detail to non-technical audiences.
- Gathered requirements with project managers and business analysts, defined scope and deliverables, and owned the architecture that satisfied them.
- Led development of integrations across applications, databases, and field devices using REST APIs, middleware, and related tooling.
- Defined the integration standards and best practices adopted across the engineering organization.

Communication Concepts Integration | Odessa, FL
Systems Integration Engineer

Jan. 2017 – Jan. 2020

- Planned, implemented, and commissioned software, hardware, and network infrastructure at customer sites, and developed cross-platform software in Java, C#, and C/C++ against PostgreSQL and MySQL.

Communication Concepts Integration | Odessa, FL
Computer Engineer (Founding Engineer)

Sep. 2015 – Jan. 2017

- Founding engineer and one of the first technical hires at the startup, building the initial computer vision products with OpenCV and MATLAB and the engineering practices the team scaled on.

PATENTS

Issued U.S. Patents (Co-Inventor)

- Rail-yard automation systems: **US 12,020,148 B1** (Jun. 25, 2024) and **US 12,217,183 B2** (Feb. 4, 2025).
- Container-terminal automation systems: **US 12,254,439 B2** (Mar. 18, 2025).
- Inventory / stacked shipping asset optimization: **US 12,391,478 B2** (Aug. 19, 2025).

EDUCATION

Westcliff University, Irvine, CA

2018 – 2020

Master of Business Administration (MBA)

Georgia Institute of Technology, Atlanta, GA

Aug. 2016 – Aug. 2017

Graduate coursework toward M.S. in Computer Science

Florida International University, Miami, FL

May 2015

B.S. Computer Engineering, Magna Cum Laude — GPA 3.73/4.0

Sergio Arboleda University, Bogotá, Colombia

Jan. 2010 – Dec. 2013

Computer Science & Telecommunications Engineering — GPA 3.65/4.0

SKILLS

Applied AI: Vision-language models in production, agentic automation patterns (scheduled perception, model evaluation, policy-based routing, automated tool invocation), AI-driven process automation, computer vision (OpenCV, RTSP, GStreamer), supervised-learning training-data design and field validation, edge inference on NVIDIA Jetson, model deployment and monitoring

Solution Design & Delivery: Business process analysis, proof-of-concept and prototype development, KPI definition, ROI measurement, adoption enablement, documentation, runbooks, and user training, Agile delivery (Scrum, Kanban)

Stakeholder & Client-Facing: Requirements gathering with business analysts and project managers, technical translation for non-technical audiences, executive reporting, customer-site delivery and commissioning, mentoring

Data Engineering: PostgreSQL (advanced), AWS RDS Multi-AZ, data modeling (OLTP/OLAP), ETL/ELT pipelines, large-scale datasets (1.4B rows), SQL optimization, Amazon Redshift and dbt (working knowledge)

Cloud & Integration: AWS (EKS, RDS, Lambda, S3, QuickSight), Kubernetes, K3s, Docker, REST APIs, middleware, event-driven architecture, Kafka and Kinesis/MSK, Jira automation, alerting and escalation design

Programming: Python, SQL, Java, C/C++, C#, Bash; Linux and Windows

Languages: English (fluent), Spanish (fluent)